

## III. - PATHOLOGY

**A serological survey of the virus  
of the vomiting and wasting disease in piglets**

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A serological study of the virus of vomiting and wasting disease in pigs was made using 2 groups of sera. In a first group 485 sow sera collected in 1977, 1979 and 1980 in 41 farms, were studied. Twenty nine of these farms are distributed over the whole French territory, while the others are located in Brittany. On each farm, blood samples were collected from 15 p. 100 of the sows. In a second group of 534 sera collected from pigs aged less than 6 months, the variations in the level of antibodies according to the age of the pigs, were studied. The haemagglutination inhibition technique was used.

Among the 12 farms located in Brittany, the distribution of the level of antibodies in the sow sera was unequal in each herd. There was no correlation between the age of the sows and the level of antibodies in their sera. Among the 485 sow sera tested, 56.7 p. 100 contained antibodies. Only the sows in 3 herds of the 41 studied were not infected with this very common virus in pig populations. In the second study, it seemed that the level of antibodies varied with the age of the pigs. The antibodies detected in the sera of the pigs aged less than 3 months were probably maternal antibodies passively obtained via the colostrum.

When the pigs were 3 months old, the number of animals with sera free of antibodies was quite the same as the number of infected animals. Later, the number of infected animals was the double of the number of those without antibodies in their sera. The conditions of the spreading of the virus and of the appearance of the clinical cases in a herd are discussed.

**Infectious agents involved in articular lesions of growing pigs**

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In order to determine precisely the role of *Mycoplasma hyorhinis* in the development of articular lesions in the pigs, five different strains of *Mycoplasma hyorhinis* were tested during experimental infections in S.P.F. piglets.

Under the experimental conditions, there were differences in the expression of the pathogenicity of some *Mycoplasma hyorhinis* strains : one of them produced a slight pleuresia, while the others created articular lesions in the infected pigs comparable to those observed at the slaughter house in bacon pigs, often accompanied by lesions of the abdominal and thoracic serosae.

Other infectious agents or parameters bound to the rearing conditions may be involved in the occurrence of arthritis in the pig. Only an epidemiologic survey combining the observations made on the farm and at the slaughter house as well as laboratory research might lead to a better understanding of this problem.

### **Epidemiology of atrophic rhinitis in pigs : the role of breeding animals**

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The role of adults in the epidemiology of atrophic rhinitis is still debated.

The purpose of this experiment was to show the asymptomatic carriers of *Bordetella bronchiseptica*.

The boar introduced into the farm and a sow with her litter were placed in two adjacent pens separated by a grating.

The different classical examinations : (clinical, radiographical, serological and bacteriological) proved to be negative in the boar.

However, the bacteriological examination practised on the alive animal in the ethmoid turbinate allowed to isolate *B. bronchiseptica*. But, this technique requiring a general anesthesia cannot be applied in practice.

As far as the litter was concerned, the bacteriological examinations of the nasal cavities proved to be positive from the 6th week of life.

We confirm the role of the boar in the transmission of the infection. However, lesions developed in the piglets were poor. This might be related with an insufficient infection pressure.

In the absence of insufficient sanitary guarantees in the farm, it is necessary to estimate the risk of introducing an animal from outside into the herd. If a quarantine is applied, it might be advisable to use a contact test. Bacteriological examinations of the nasal cavities of piglets seem to be the most valid test to estimate the dangerous effect of introducing a boar into the herd.

### **Frequency, intensity and localization of pulmonary lesions in bacon pigs : results of a first series of observations at the slaughter-house**

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Lungs of bacon pigs were systematically examined in five slaughter-houses in Brittany in July 1980. A sample of 2 174 pigs was examined. They belonged to a group of 3800 pigs slaughtered during the control period. A total of 68.2 p. 100 of the pigs showed pneumonia lesions and 20 p. 100 pleuresy. The cardiac lobes were particularly affected, then the apical, the azygos and the diaphragmatic lobes. The left side of the lung was significantly less affected than the right side.